

IN THE CLAIMS:

1. (Currently Amended) A liner retention system for a reciprocating pump having a piston
2 and a piston rod operating in a cavity of a frame, which system comprises:

3 a cylindrical liner for said piston and said piston rod, said liner having a radially extending
4 external shoulder;

5 a liner clamp plate having a central opening receivable over said liner and a plurality of stud
6 apertures wherein said radially extending external shoulder engages said central opening in said liner clamp
7 plate;

8 a plurality of studs, each said stud extending from a module block; each said stud and
9 terminating in a threaded end spaced from said frame module block;

10 at least one compression sleeve having an inside diameter larger than an external diameter
11 of said stud extenders; and

12 a tensioner to secure each said stud to said liner clamp plate and to thereby secure said
13 cylindrical liner to said module block.

1. 2. (Original) A liner retention system as set forth in Claim 1 wherein said tensioner is a
2 multijack bolt tensioner.

1. 3. (Original) A liner retention system as set forth in Claim 1 wherein at least one said stud
2 includes a stud extender.

1 4. (Original) A liner retention system as set forth in Claim 3 including two said stud extenders

2 and two said compression sleeves.

1 5. (Original) A liner retention system as set forth in Claim 1 wherein said liner clamp plate

2 central opening has a diameter less than a diameter of said radially extending external shoulder.

1 6. (Original) A liner retention system as set forth in Claim 1 wherein said cavity in said frame

2 is closed on five sides.

1 7. (Original) A liner retention system as set forth in Claim 1 including a hardened washer

2 between each said compression sleeve and each said tensioning means.

1 8. (Original) A liner retention system for a reciprocating pump having a piston and piston rod

2 operating in a cavity of a frame wherein said cavity is closed on five sides, which system comprises:

3 a cylindrical liner for said piston and said piston rod, said liner having a radially extending
4 external shoulder;

5 a liner clamp plate having a central opening receivable over said liner wherein said central
6 opening has a diameter less than a diameter of said radially extending shoulder;

7 a plurality of studs extending from a module block, each said stud terminating in a threaded
8 end spaced from said module block, including a pair of stud extenders;

9 a pair of compression sleeves having an inside diameter larger than an external diameter

10 of said stud extender; and

11 a tensioner to secure each said stud to said liner clamp plate and to thereby secure said

12 cylindrical liner to said module block.

1 9. (Original) A method to secure and retain a cylindrical liner for a reciprocating pump to a

2 frame, which method comprises:

3 inserting said cylindrical liner in an opening within a cavity of said pump frame;

4 sliding a liner clamp plate over said cylindrical liner so that said clamp plate engages a

5 radially protruding shoulder on said liner and so that a plurality of studs extending from said frame pass

6 through a plurality of apertures in said clamp plate;

7 attaching a stud extender to at least one of said studs, wherein each said stud extender

8 terminates in a threaded end spaced from a module block;

9 sliding a compression sleeve having an internal diameter larger than an external diameter

10 of said stud extender; and

11 tensioning each said stud to said clamp plate so that said liner thereby is secured to said

12 module block.

1 10. (Original) A method as set forth in Claim 9 wherein said steps are performed in reverse

2 order to remove said cylindrical liner.

1 11. (Original) A method as set forth in Claim 9 wherein said tensioning each said stud to said
2 clamp plate includes threading a multijack bolt tensioner to each said stud.

1 12. (Original) A method as set forth in claim 9 including the step of reducing the number of said
2 studs tensioned through use of said method.